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SOCIAL BACKGROUNDS, ATTITUDES AND OUTLOOKS OF OPTOMETRIC PRACTITIONERS IN NEW YORK STATE.

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AN EVALUATION OF THE SOCIOECONOMIC BACKGROUND OF OPTOMETRISTS IN NEW YORK STATE WAS MADE AND WAS RELATED TO DEVELOPED ATTITUDES ON COMMERCIALISM AND PROFESSIONALISM. THE STUDY WAS MADE TO DEVELOP A SOCIAL INDEX OF PROFESSIONALISM, TO DEVELOP AN UNDERSTANDING OF THE SOCIAL BACKGROUNDS THAT PRODUCE PRACTITIONERS WITH THE HIGHEST PRINCIPLES OF SOCIAL ETHICS, AND TO PROVIDE DATA FOR FURTHER RESEARCH IN THE AREA OF STUDENT SELECTION AND STUDENT EDUCATIONAL ACCULTURATION. OVER 55 PERCENT OF THE 1,640 OPTOMETRISTS PRACTICING IN THE STATE OF NEW YORK RESPONDED TO A MAILED QUESTIONNAIRE. A FACTOR ANALYSIS WAS MADE OF THE DATA GATHERED. FOR THE 83 INDEPENDENT VARIABLES, 12 FACTORS WERE IDENTIFIED, AND FOUR DEPENDENT FACTORS WERE DETERMINED FOR THE 60 DEPENDENT VARIABLES. RESULTS OF THE STUDY SHOWED THAT THE MOST SIGNIFICANT STATISTICAL FACTOR IN DEVELOPING AN UNDERSTANDING OF THE SOCIAL BACKGROUND THAT PRODUCES HIGH PRINCIPLES OF PROFESSIONAL ETHNICS WAS MEMBERSHIP IN THE NEW YORK OPTOMETRIC ASSOCIATION. THE AUTHOR CONCLUDED THAT MEMBERSHIP IN THAT ORGANIZATION TENDS TO FOSTER RELATIONSHIPS AND IDEALS THAT ARE CONSISTENT WITH A HIGHER LEVEL OF PROFESSIONALISM. (AL)

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# Social Backgrounds, Attitudes and Outlooks of Optometric Practitioners In New York State

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## 1. Problem on Which the Research Was Focused

The profession of optometry is a young one having been given legal recognition in the State of New York in 1908[1]. Since that time optometry has grown in stature and in scientific depth. The minimum educational requirements for admission to the licensure examination in the State are two years of pre-professional undergraduate college work and three or four years of optometry leading to the degree Doctor of Optometry (O.D.).

One of the most divisive elements within the profession today is the problem of commercialism and commercial modes of practice. Asch[2], in a 1958 study, viewed the problem of commercialism as "anti-professionalism". In 1961, Orzak[3] proposed the necessity for studying the social background of the optometrist as well as his attitude toward professionalism. Orzak felt that significant understanding about the nature of the optometrist's attitude toward both postures could be achieved through a social study of the profession.

This project study (as a sequel to the 1963 Gottehrer-Gelsi[4] study of optometry students) attempted to evaluate the optometrist's social background and, thereby, relate it to developed attitudes on commercialism and professionalism.

## 2. Objectives and/or Hypotheses

a. To determine the social and economic backgrounds of the optometrists in the State of New York

b. To evaluate the attitudes and outlooks of the practitioners in the State with regard to professionalism.

c. To relate wherever possible these attitudes and outlooks to the social and economic backgrounds.

d. To attempt to develop a social index of professionalism.

e. To develop an understanding of the social backgrounds which produce practitioners with the highest principles of professional ethics.

f. To point out the need for areas of further investigation as they relate to the education and educational atmosphere of optometry students. Thus, it is hoped that the collected data will pave the way for continued sociological research in the area of student selection and student educational acculturation, toward the end of eliminating internal divisiveness and consolidating long range educational and professional goals.

3. Related Research

The most pertinent related literature is a study by Gelsi and Gottehrer entitled "A Study of the Professional Orientation of Optometry Students". In this study the authors attempted to determine the effect of the student's socio-economic background on his attitude toward his chosen profession and the manner in which he intended to practice that profession. In this study, considerable emphasis was placed on professional orientation — the values and

importance placed on the three main characteristics of a profession (technical competence, autonomy and service ideal).

A second related study is entitled "Optometry: Past - Present - Future", by Sidney H. Asch. Here, the author points out that a major obstacle to the complete acceptance of optometry as a respected member of the health care professions is the large group of commercially oriented practitioners throughout the country.

## 4. Procedure:

### a. General Design of the Study

A questionnaire (see Appendix "C") was designed to facilitate translation into an electronic data processing unit, sequence of sections, compactness and ease of completion by the practitioner.

Questions were set up with check list answers wherever possible; numbering was accomplished according to EDP principles; and a system of coding for write-in answers was devised.

The sequence of the major sections of the questionnaire was set up with the section on social background first in order to permit beginning the questionnaire with factual background information requiring a minimum of thought and interpretation. Then, following sections related to professional

attitudes, career preferences, choices and commitments.

The content of the questionnaire was designed to encourage conciseness and validity. The section on socio-economic background was set up to obtain information regarding those factors which might have some correlation with the practitioners professional attitudes and orientations.

b. Population and Sample

The group of subjects utilized in the study represented the 1640 optometrists in practice in the State of New York. These practitioners vary in age and experience, from recent graduates to persons who are in their eighth decade of life and who have been in practice for more than fifty years.

These practitioners also are graduates from many of the optometric schools throughout the country. They include most major faiths, rural and urban practices, and range in mode of practice from private professional offices on Park Avenue in New York City to a salaried position with a chain-type commercial establishment.

On January 6, 1966, questionnaires were mailed to each of the 1640 optometrists in practice in the State of New York. Included in the #12 envelope, on which was printed "IMPORTANT MAIL — DO NOT DELAY", were a cover letter by the principal

investigator, a cover letter by Dr. Neville L. Bennington, Assistant Commissioner of Professional Education of the State of New York, a self-addressed reply envelope which required no postage for mailing and the one page questionnaire. Mail was sent first class. While the indicated deadline for the return of the questionnaire was the end of the month (of January), an additional week was permitted for the receipt of late returns. The final cut-off date was February 7, 1966, on which date 909 returns were received. An additional 11 returns were received within the same period with notes or messages written but with no questions answered. These were not counted and were discarded. Five of the 11 notes were signed and indicated that the optometrists were either about to retire or were retired and did not wish, therefore, to respond to the questionnaire. Four messages were unsigned and indicated that the questionnaire was an unwarranted intrusion upon personal affairs. The remaining two also were unsigned and sharply vituperative. Overwhelmingly, however, there was outstanding cooperation and 91 questionnaires had signed or unsigned messages or notes ranging from best wishes to bewilderment. 55.4% of the optometrists in practice responded.

### c. Data and Instrumentation

Data to be gathered included the four dependent variables: (1) professional orientation;

(2) career preferences;

(3) career choice;

(4) career commitment;

and socio-economic factors such as age, marital status, academic standing, population of home community, parents' education, parents' occupations, parents' income, parents' place of birth, the practitioner's religious preference and the practitioner's present income level.

## 5. Analysis of the Data and Findings

Responses to all of the questions by the 909 optometrists responding were correlated to form a product-moment correlation matrix. Centroid factors were extracted from the highest r at the diagonal value. Twelve and four factors judged salient on the basis of the magnitude of factor loadings were rotated to orthogonal

simple structure by the varimax procedure. The internal consistencies of the factor scales were not computed.

Factor Analysis:

83 independent and 60 dependent variables were selected from the total questionnaire. For each set a matrix of intercorrelations was determined.

These two matrices of intercorrelations were further analysed in order to define clusters (or related items). Centroid factors, which are independent from each other, were extracted to determine an initial set of reference axes to which these clusters of variables relate. The degree of relationship of each variable to these factors is expressed as the "loading". Each factor accounts for a certain proportion of the variance in these two sets of variables. Only those factors which contribute to the variance and which show high communality indicating that they account for many common elements shared by the variables, and high loadings indicating a high degree of relationship among variables, are worth considering.

As the number of factors increases the reference axes or dimensional structure for each data point becomes more complex. Therefore "simple solutions" are sought. By means of rotation of these factors which account for a good portion of the variance,

which have high communality and show loadings of items which are not better explained by a previous factor, the best factor solution for each set of variables was found. For the 83 independent variables, 12 factors emerged, while a 4-factor solution was accepted for the 60 dependent variables. The factors were:

Independent Variables

Factor I Influences of Career Choice

II Application to Optometry School

III Religion, Place of Birth and Size of Community

IV Employment in Optometric Practice

V Practice Employment and Political Affiliation

VI Education and Professional Affiliation

VII Veteran Status, Career Choice and Tuition Upkeep

VIII Items on Religion

IX Retirement and School of Optometry

X Marital Status and Income

XI Influence of Career Choice by Existence of a Visual Problem

XII Partnership Practice

Dependent Variables

Factor I Perception of Self and Career Satisfaction

II Practice Independence

III Professional Behavior

IV Free Time and Adequacy of Income

Multiple Regression Analysis:

Factor analysis of the questionnaire yielded 12 (rotated) factors for the independent variables and 4 factors (rotated) for the dependent variables.

On the basis of these factors and their selected items with the best loadings, each subject received a factor score, a total of 16 scores (dimension score). We called this new set of variables: a) independent variables 1 - 12; b) dependent variables 13 - 16.

In order to predict a subject's score on a dependent variable from the set of 12 independent variables a multiple regression program was run. This permits an analysis of the influences of the independent variables upon the dependent variables.

The multiple correlation coefficient R for the 12 independent variables with the dependent or interior variables are given in lines 12 - 15*. For dependent variable 13, the multiple R of the 12 independent variables is R = .425 (line 12). This is the optimal

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* Lines 12 - 15 in the regression tables contained in the Apendix.

correlation for this sample with this number of variables. R for dependent variable 14 with the 12 independent variables = .115

R for dependent variable 15 --- R = .489

R for dependent variable 16 --- R = .305

$R^2$ indicates the percentage of variance explained by the set of 12 independent variables when correlated with each dependent variable. Thus, 18% of the variance is accounted for when correlating the 12 independent variables with variable 13 (line 12). For variable 14 the variance accounted for is only 1.3%

For 15 $R^2$ = 23%

For 16 $R^2$ = 9.2%

When making a prediction some error occurs, given in line 12 as the squared standard error. We can think of the given R as the mean of a distribution of varying R's when making repeated predictions. Variability is indicated by the SE. In line 12 is given an adjusted R, which would apply if we used less than the given number of predictor variables. The R gets smaller and the explained variance ($R^2$) also gets smaller. The adjusted standard error is the square root of $SE^2$, meaning that with a more "economical" set of variables we can reduce the error of prediction.

Two sets of weights are given for the dependent variables:

a) the Beta weights are to be applied when using standard scores

(4 - 11); b) the B or regression coefficients are to be applied when using raw scores (20 - 27).

For the prediction of dependent variable 13 with raw scores the 12 weights are in lines 20 - 21. For example, for independent variable 1 the appropriate weight is -.035, for 2 B = -.062 , etc.

Predicting dependent variable 14 the 12 B weights are in lines 22 - 23, e.g. for independent variable 1 B = -.014 , for 2 B = .087 , etc.

For dependent variable 15 the B weights are in lines 24 - 25. For 16 in lines 26 - 27.

In order to apply B weights, all scores would have to be transformed into standard scores. The appropriate 12 weights for predicting each dependent variable are in lines 4 - 11, B gives an indication of each variable's importance.

When actually solving the prediction equation for a subject the respective constant gets added at the end (line 28).

Interpretation of the relative contributions of each variable to the multiple R can be made via partial correlation coefficients, B, or T values. Partial correlation (lines 47 - 54) for each

dependent variable with each independent variable holding all others constant, e.g. dependent variable 13 with independent variable 1, while all others are held constant, correlates -.0565 , with independent variable 2 -.0420 , etc. Dependent variable 14 with independent variable 1 correlates .0186 , etc.

The highest partial correlation of all these with dependent variable 13 is the one with independent variable 3 (= -.198) meaning that variable 3 is making the greatest contribution in the prediction of variable 13. The same information is given by the B weights and also by the T for the regression coefficient. The highest B (line 4) for the prediction of dependent variable 13 is attached to independent variable 3 , which also shows the highest T value (line 36). Usually any T value of 1.00 and above is considered as significant, meaning that variables with lower T values do not contribute much to the prediction.

With repeated predictions the error for each weight or regression coefficient would distribute normally around its mean (the weight itself). The error can therefore be expressed as a standard error for each regression coefficient (similar to the SE for the multiple R). Lines 29 - 36 show these standard errors, which would be the standard deviation of the distribution around the weight.

Analysis of Independent Variables:

A group of independent variables, listed below, constitute factor I.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 33 | I R | 1. father optometrist | .7024 |
| 34 | I R | 9. "other" than listed profession | -.6957 * |
| 28 | I O | 1. father influence in career choice | .6660 |
| 31 | I P | 1.6 father's work | -.6651 |
| 30 | I O | 3. "neither" parent influential in choice | -.5996 * |
| 39 | I W | 1.5 social class | .5512 |
| 26 | I M | 1.8 father's education | .5310 |
| 37 | I U | 1.7 parents' income during high school | .5107 |
| 27 | I N | 1.8 mother's education | .4092 |
| 32 | I A | father works independently | -.3766 |
| 60 | III T | 1. influence of optometrist | .3657 |
| 56 | II Z | 1. total financial aid from family | .3144 |
| 16 | I I | 1. optometry considered before high school | .2241 |

* Items were dropped for multiple regression.

Factor I, that of the influences of career choice, may be summarized by suggesting that when the father was an optometrist, he tended to influence the choice of a career in optometry. When the father's work was conceived of that of a professional, the social class and father's education were influencing factors. Further, parents' income during high school and when total financial aid was derived from the family were influencing factors. It is interesting to note that there is some relationship between the lack of independence of the father in his work and the work of the father (when in the working

or laboring class) as factors influencing career choice. Optometry overwhelmingly is a profession served by independent solo practitioners -- -- quite the opposite from the concept of an employed worker.

A group of independent variables listed below, constitute factor II.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 54 | II G | 6. did not apply elsewhere prior to opt. sch. | .6890 |
| 14 | I G | academic preparation before opt. school | .6262 |
| 20 | I I | 5. college other than pre-optometry | -.5691 |
| 53 | II G | 3. application to medical school | -.5190 * |
| 17 | I I | 2. considered optometry during high school | .3352 |
| 52 | II G | 1. application to dental school | -.3020 * |
| 18 | I I | 3. considered opt. before high sch. & college | .2171 * |
| 80 | IV J. | read professional journals (+ → hardly ever) | .1280 * |

* Items were dropped for multiple regression.

Factor II represents a statistical suggestion that the shorter the preparation before optometry school, the more likely it was for students not to apply to other disciplines prior to optometry school. This would mean that the student who knew that he wanted optometry as a career and who made an early career choice specifically prepared his pre-college work for entrance into optometry and he probably had little other additional college work.

A group of independent variables, listed below, constitute factor III.

| Var. No. | Quest No. | | Loadings |
|---|---|---|---|
| 42 | I Z | 3. denomination: Jewish | -.696 |
| 41 | I Z | 2. denomination: Protestant | .652 |
| 35 | I S | father's place of birth | -.605 |
| 36 | I T | mother's place of birth | -.566 |
| 25 | I L | size of community before college | .557 |
| 51 | II F | size of community in which practicing | .441 |
| 76 | IV G | Republican | .420 |
| 66 | IV B | family income of patients | -.200 |
| 82 | IV L | reading magazines (other than professional) | -.152 |
| 4 | I B | Ohio State University | .189 |

* Items were dropped for multiple regression.

The analysis of this cluster of variables is very interesting. The Jewish and Protestant optometrists tend to represent two opposite poles. The Jewish optometrist, his father's birthplace (foreign), his mother's birthplace (in the United States), and the family income of his patients are factors which tend to be significantly different than those of the Protestant optometrist. The latter, his father's birthplace (in the United States), lived in a smaller community (than the Jewish optometrist) before college. The Protestant optometrist now tends to practice in a smaller community (than the Jewish optometrist) and tends to be Republican (as compared to the Jewish optometrist who tends to be a Democrat). One might suggest that the Jewish optometrist was more urbanised.

A group of independent variables, listed below, constitute factor IV.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 46 | II B | 3. practicing as an employee | .7225 |
| 68 | IV C | 2. full time employed | .7040 |
| 67 | IV C | 1. private, solo, full time practice | -.6742 * |
| 44 | II B | 1. individual private practice | -.6693 * |
| 13 | I F | academic standing in high school | -.1774 * |

* Items were dropped for multiple regression.

This analysis shows the obvious statistical relationship between the practicing optometrist who is an employee with employment on a full time basis.

A group of independent variables, listed below, constitute factor V.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 78 | IV G | 5. no political club membership | -.4743 |
| 47 | II B | 5. part-time indiv. priv., part-time empl. | .4420 |
| 70 | IV C | 4. part-time employed, part-time priv. prac. | .4085 |
| 77 | IV G | 2. Democrat | .3407 |
| 19 | I I | 4. considered optom. during lst 2 yrs. college | -.2156 |

* Items were dropped for multiple regression.

The statistical suggestion is made, though slight, that when the optometrist was employed part-time and was part-time in individual private practice, he had political membership which tended to be Democrat.

A group of independent variables, listed below, constitute factor VI.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 79 | IV I | subscription to optometric journals | -.5618 |
| 59 | III Q | member American Academy of Optometry | .5300 |
| 38 | I V | member N.Y. State Optometric Association | .4819 |
| 23 | I J | graduate school after optometry school | -.3873 |
| 24 | I K | degree after optometry school | -.3855 |
| 71 | IV D | member prof. clinic staff (1.yes, 2.no) | .3705 |

* Items were dropped for multiple regression.

A relationship exists showing that members of the American Academy of Optometry are also members of the New York State Optometric Association. Further, that persons who tend to subscribe to optometric journals were likely to seek additional education after optometry school.

A group of independent variables, listed below, constitute factor VII.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 58 | II Z | 6. G.I. Bill in addition to other funds | .8287 |
| 72 | IV F | 2. veteran World War II | .7171 |
| 75 | IV F | 6. never in armed forces | -.6553 * |
| 22 | I I | 7. consid. optom. after military service | .6071 |
| 57 | II Z | 2. funds from family and own earnings | -.4543 |

* Items were dropped for multiple regression.

This analysis would tend to show that veterans of World War II

utilized the G.I. Bill to finance their optometric education and that they tended to consider optometry as a career after their military service. This would be contrasted by the student whose family and whose own earnings financed the optometric education.

A group of independent variables, listed below, constitute factor VIII.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 48 | II C | attend religious services (-- 5. never) | .6774 |
| 49 | II D | importance of religion (-- 5. no pref.) | .6304 |
| 43 | II A | considers himself religious (-- 2. no) | -.5881 |
| 40 | I Z | Roman Catholic | .4299 |
| 81 | IV K | reading books, other than professional | .2414 |
| 62 | III T | 3. no influence on career choice | .1775 * |

* Items were dropped for multiple regression.

Roman Catholic optometrists tended to view themselves as not religious though attendance at religious service related to the importance of religion.

A group of independent variables, listed below, constitute factor IX.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 2 | I B | 1. Columbia University | -.5542 |
| 1 | I A | year graduated from optometry school | .5453 |
| 55 | II H | number optometry schools applied to | .4814 |

(Continued next page.)

Continued:

| Var. No. | Quest. No. | | | Loadings |
|---|---|---|---|---|
| 5 | I B | | Illinois College of Optometry | .3327 |
| 15 | I E | | plan to retire | -.2874 |
| 3 | I B | | Pennsylvania State College of Optometry | .2729 |
| 63 | III T | 4. | no acquaintance with optometrist | -.2566 |
| 74 | IV F | 5. | peacetime veteran | .2435 |
| 73 | IV F | 3. | Korean War veteran | .2200 |
| 12 | I K | | academic standing in optometry school | -.1827 |
| 6 | I B | 8. | Pacific University | .1697 * |
| 21 | I I | 6. | consid. optometry after other work exp. | -.1587 * |

* Items were dropped for multiple regression.

The older optometrist planning to retire tended to be from Columbia University and had little or no acquaintance with an optometrist as a career choice influence. The younger and more recent optometrists tended to apply to more schools, had military duty and had some acquaintanceship with optometrists prior to career choice.

A group of independent variables, listed below, constitute factor X.

| Var. No. | Quest. No. | | | Loadings |
|---|---|---|---|---|
| 9 | I C | 4. | married with children | .7388 |
| 8 | I C | 3. | married, no children | -.5212 * |
| 50 | II E | | present net income | .4362 |
| 83 | V B | | automobiles in family | .4310 |
| 7 | I C | 1. | single | -.3581 * |

* Items were dropped for multiple regression.

Apparently there is some statistical inference that married

optometrists with families have higher incomes and more automobiles than do single optometrists and married optometrists without children.

A group of independent variables, listed below, constitute factor XI.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 11 | I D | #1. supporting no one besides family | .5905 |
| 10 | I D | 1. supporting one parent | -.5683 * |
| 66 | III V | decision influenced by visual problems of others | .3158 |
| 64 | III U | decision influenced by own visual probl. | .3152 |
| 61 | III T | 2. some influence from an optometrist | -.2768 |
| 29 | I O | 2. mother's influence on career choice | -.1327 |

* Items were dropped for multiple regression.

Some relationship exists between the existence of a visual problem either in self or in one's family as influencing career choice.

A group of independent variables, listed below, constitute factor XII.

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 45 | II B | 2. partnership with other optometrist | .7945 |
| 69 | IV C | 3. private partnership practice | .7771 * |

* Items were dropped for multiple regression.

Analysis of Dependent Variables:

In an analysis of dependent variables using a four-factor solution, the following represents a tabular summary of factor I:

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 20 | III A | 1. choose career over again: optometrist | .6006 |
| 54 | III R | status viewed by community: → 5 = neg. | .5841 |
| 24 | III B | 1. career choice for child: optometry | .5491 |
| 55 | III S | community views profess. → 4 = poorly def. | .5415 |
| 21 | III A | 2. choose career over again: med., dent. | .4366 |
| 58 | III T | changes in optom.: 1. → 6. will not survive | .4114 |
| 25 | III B | 2. career choice for child: med., dent. | .3868 |
| 57 | III X | community viewed profess. → 4 = poorly def. | .3630 |
| 2 | I Y | social class expectancy: 1. lower → 5. upper | -.3492 |
| 1 | I X | social class now: 1. lower → 5. upper | -.3474 |
| 56 | III W | community viewed other optom. 1. prof. → 5. skilled | .3194 |
| 28 | III C | people recommend to optom. → 3. = none | .3157 |
| 59 | III Z | views profess. (colleagues) as 1. satisf. → 2. dissatis. | .2446 |
| 44 | III O | 5. lack of recognition from medicine | -.2254 |
| 60 | IV A | optometric education: 1. → 5. poor | .2206 |
| 48 | III P | 2. dissatisfactory: public views as "seller of glasses" | .1898 * |
| 51 | III P | 5. dissatis.: lack of recognition by medicine | -.1536 * |
| 52 | III P | 6. dissatis.: not enough income | .1281 * |
| 49 | III P | 3. dissatis.: public would rather go to M.D. | .0920 * |

* Items were dropped for multiple regression.

Factor I may be defined as relating to the optometrist's perception of himself and to some extent, his satisfaction with his profession. The latter may, indeed, be a major reason for or contributor to the condition of the former. It may be said that persons who would tend not to choose optometry as a career again would tend not, as well, to recommend optometry as a career choice.

They would see the community's perception of themselves as less than professional and as being poorly defined. To a somewhat lesser extent would they select medicine or dentistry. They tend to have doubts about the stability of the profession. Further, their social anticipation would be lower. Conversely, the optometrist who tends to be satisfied with his profession is one whose characteristics are the reverse of the above and whose social anticipation decidedly is upward.

In an analysis of dependent variables using a four-factor solution, the following represents a tabular summary for factor II:

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 36 | III K | desirability of practicing under optometrist: 1.+ → 4. negative | .6120 |
| 35 | III Y | desirability of practicing under ophthalmologist: 1.+ → 4. negative | .6116 |
| 32 | III G | desirability of practicing with other profess.: 1.+ → 4. negative | .5560 |
| 33 | III H | desirability part-time supervised by ophthalmologist: 1.+ → 4. negative | .5394 |
| 34 | III I | desirability part-time supervised by optometrist: 1.+ → 4. negative | .5357 |
| 31 | III F | desirability part-time with other profess.: 1.+ → 4. negative | .3798 |
| 15 | II V | desirability part-time working for ophthalmologist: 1.+ → 4. negative | .3337 |
| 40 | III O | 1. diss. not held high in public esteem | .2844 * |
| 16 | II V | desirability purchasing ethical practice | .2566 * |
| 47 | III P | 1. diss. not held high in public esteem | -.2097 * |
| 45 | III O | 6. diss. not enough income | -.1473 * |
| 50 | III P | 4. diss. public does not view opt. like M.D. | .1314 * |
| 42 | III O | 3. diss. public would rather go to M.D. | .0730 * |

* Items were dropped for multiple regression.

Factor II may be viewed as defining the underlying element of the independence of the optometrist.

In an analysis of dependent variables in a four-factor solution, the following represents a tabular summary for factor III:

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 12 | II R | importance: active in state association 1.→4. negative | .6445 |
| 9 | II O | importance: attending seminars & classes post-grad. 1.→5. negative | .6270 |
| 5 | II K | importance: colleague respect 1.→5. negative | .5364 |
| 8 | II N | importance: helping people 1.→5. negative | .5250 |
| 17 | II W | desirability: commercial practice - high salary 1.→4. negative | -.5090 |
| 19 | II Y | desirability: purchasing commercial practice 1.→4. negative | -.4934 |
| 38 | III M | Optometric Center of New York importance 1.→5. negative | .4752 |
| 14 | II T | desirability: doubling income, own practice 1.→4. negative | -.4643 |
| 37 | III L | professionalization movement 1.→5. neg. | .4537 |
| 11 | II Q | importance: superv. by professional, not lay person 1.→5. negative | .4280 |
| 7 | II M | importance: autonomy in work 1.→5. neg. | .4208 |
| 39 | III N | Optometric Centers in cities, 1.→5. neg. | .4205 |
| 10 | II P | importance: rendering services for low fees 1.→5. negative | .3994 |
| 18 | II X | desirability: teaching, research 1.→4. negative | .3685 |
| 13 | II S | desirability: employed for modest salary 1.→4. negative | .2712 |
| 22 | III A | choose career again: engineering, science | .2251 * |
| 26 | III B | recommend: engineering, science | .1969 * |
| 43 | III O | 4. dissatis.: public does not view optometrist like M.D. | -.1718 * |
| 46 | III O | 7. optometry limited profession | .1676 * |
| 41 | III O | 2. public views optometrist as seller of glasses | .1087 * |

* Items were dropped for multiple regression.

This factor presents a matrix of variables concerned with professional and ethical behavior. Entwined with the question of behavior is that of attitudes toward commercial practice. The optometrist who tends to consider membership in his state association as important almost to the same extent tends to view as important the attendance at seminars, classes, post-graduate courses and symposia. He is the optometrist who tends to value as important doing work which his colleagues respect and he has a desire to hold as important the concept of helping people. Statistically to the same extent he would not view as desirable working for or purchasing a commercial practice with a view toward high income. This optometrist tends to view the professionalization movement as important and to be supervised by professional rather than by lay persons. That person, further, views as important having autonomy in one's work and in rendering service even at low fees. Taken as a complex of variables, they constitute a syndrome of professional behavior.

In an analysis of dependent variables using a four-factor solution, the following represents a tabular summary for factor IV:

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 3 | II I | importance: adequate free time 1.→5. negative | .4814 |
| 6 | II L | importance: good income 1.→5. negative | .4559 |
| 4 | II J | importance: time off 1.→5. negative | .4368 |

(continued)

Continued:

| Var. No. | Quest. No. | | Loadings |
|---|---|---|---|
| 29 | III D | system of eye-care | .3516 |
| 30 | III E | college curriculum | -.3323 |
| 23 | III A | 5. choosing career over: teaching | .2201 * |
| 27 | III B | 5. preference for child: teaching | .1367 * |
| 53 | III P | 7. optometry "limited" profession | -.0911 * |

* Items were dropped for multiple regression.

The statistical inference in this set of variables relates to the desire of having adequate free time and a good income.

## 6. Conclusions and Implications

A key objective in the present study is to make a determination of base line data that relate to the social and economic backgrounds of the optometrists of the State of New York. This has been accomplished and is contained in the many tables appearing as part of the Appendix to this report. Several findings are worthy of special note. Largely, one may conclude that the optometrists of the State come from families whose socio-economic levels were low and low-middle income. Parents overwhelmingly had little formal education and were foreign born. Except for those few optometrists who come from a family in which the father was a professional, beyond question, the selection of optometry as a career occupation represented significant

upward social mobility. It is, also, interesting to note that while the optometrist presently occupies a socio-economic level which focuses upon the middle and upper middle income area, and recognizing the significant shift from the level of the family in which he was raised, about two-thirds of the group would either not select the occupation again or not have their offspring select the profession. One must look to the element of dissatisfaction with the profession rather than to the social mobility for an answer. In a future investigation, one area that should be probed is the element of dissatisfaction as it relates to the income expectation against the background of the present income level. Coincident with this investigation should be an exploration of the income levels of other professionals and particularly how this affects the element of satisfaction with optometry as a career. While the present study provides base line data for optometrists in New York State, much of the data is skewed (such as father's birthplace) because of the restricted area of the sample studied, namely New York State optometrists. A future national study is needed to explore a broader sample. Certainly this restriction was responsible for many other questions and problems. As an example. Columbia University was the institution at which the overwhelming number of practitioners attended. A more representative distribution of institutions attended by optometrists would undoubtedly influence outlooks and attitudes. One might, also, seek to evaluate the selection of institution on the basis of social background, though admittedly geographical proximity of the home to the institution surely is a strong factor.

A second objective in the study is an evaluation of attitdes and outlooks of the practitioners concerning professionalism. An analysis of the findings can be made from two vantage points. The first is that of commitment to professionalism as an integral part of optometry. The second is that of evolvement. Clearly, members of the New York State Optometric Association and the American Academy of Optometry tended to be more significantly committed to the "professionalism" of the profession. This factor also related to meaningfulness of Regents Rules on professional conduct, continuing post-graduate professional education, self perception of professional posture, the community's view of optometry, etc. But the second consideration, that of evolvement, is perhaps more important. Professionalism in optometry most often is viewed in terms of behavior of the optometrist in relation to the environment within which he practices. The Regents Rules, sought and supported over the years by the New York State Optometric Association, regulate professional behavior, i.e. signs, displays, advertising, etc. This movement or trend has been resisted by those whose commitments are commercial and it is supported by those whose commitments are professional. The study supports the contention that the division in attitudes and outlooks between the commercial element as opposed to the professional element is a sharp one. However, one may conclude that attitudes and outlooks with regard to professionalism do evolve. Gelsi and Gottehrer favored the more extensive molding of these attitudes in the institutions and as an educational experience. The younger practitioner, whose educational background is more extensive,

tends to have a greater commitment to professionalism. But the most significant single factor is membership in the New York State Optometric Association. A future study should more definitively evaluate how the concepts of professionalism are formed and, indeed, how definitively they were outlined to the practitioner when he was a student.

While additional inferences can be made about the third objective, relationship of attitudes and outlooks to social and economic backgrounds, the statistical findings are not conclusive. On the one hand upward social mobility has been clearly defined by the study. But the achievement of a higher social and economic level did not defray a sense of dissatisfaction which definitely is present in the findings. Largely, the dissatisfaction relates to perceptions of the profession by the public and by the practitioners themselves. It is the opinion of the author that the dissatisfaction with the profession stemming as it does from a public view of optometry which is influenced by its observation of commercialism and commercial modes of practice, increases the desire for more rapid evolvement and, as well, the sense of frustration that it will not evolve sufficiently quickly. Entwined, herein, is still the factor of upward social mobility, the achievement of a higher status economically and the desire for a higher socio-professional status for optometry.

A fourth objective of the study is to develop a social index of professionalism. In an attempt to select questionnaire items which

identify and relate to professionalism, the following were chosen:

"II K doing work my colleagues respect"

"II M having autonomy in my work; having enough freedom and responsibility to engage in my practice as I want it to be done"

"II N helping people; doing something worthwhile for society"

"II O attending seminars, lectures, symposia; taking courses of post-graduate study"

"II P offering my professional services to indigent patients at very low fees or no fees"

"II Q were I to be employed (or if I am employed) being supervised professionally by another optometrist rather than by a lay person"

"II S were I employed (or if I am employed) working for an ethical optometrist at a modest salary"

"II W working for a commercial establishment at a high salary"

"II X teaching or doing research in a clinic or in a school of optometry"

"III Q Are you a member of the American Academy of Optometry"

"IV Are you a member of the New York State Optometric Association"

Items II K, II M, II O and II X relate to professional behavior and performance standards. Items II N and II P relate to a sense of ethical principles in professional performance. Items II Q, II S, and II W relate to problems of commercialism. Items III Q and IV relate to individual identity with the professionalizing group (particularly III Q).

The foregoing twelve items were very carefully selected as the key items which defined the three aspects of what constitutes professionalism. This was done as the result of a seminar held on December 18, 1965, at the Optometric Center of New York and attended by more than forty members of its professional staff. The author conducted the seminar and attempted to elicit from those who participated in the discussion the items which could define or demarcate the three elements of professionalism. While the composite of the three elements, defined by the twelve questionnaire items are basic factors, it is recognized that this index of professionalism may be (in fact would probably be) different in another professional discipline. Where the element of commercialism was not a seriously divisive one, commercialism would be viewed as a factor of lesser importance in an index of professionalism. The objective of relating social background to the developed index of professionalism emphatically was not successful. It can be attributed to a lack of sophistication of the questions and, as well, perhaps, to failure to identify other social factors. The degree of statistical relatedness of social factors

to the index of professionalism was very low. In a future study, an attempt should be made to develop a scoring system for the index of professionalism. This was not attempted in the present study.

In the present study, an analysis of the influences of several specially selected key items was made. These were the independent variables which influence the dependent variables.

a. The optometrist's impression of how the community views optometry was found to tend to be influenced negatively by the size of the community and positively by whether the individual was a member of the New York State Optometric Association.

b. The anticipated social class to which the optometrist expected to belong tended to be positively influenced by the year in which he was graduated (or by age). The younger or newer practitioner tended to have a higher social class expectancy.

c. The optometrist's view of his present social status was found to be influenced by his present net income.

d. The optometrist's view of the relative importance of being active in the New York State Optometric Association

tended to be influenced by whether or not he was, in fact, a member of the New York State Optometric Association.

e. The optometrist's consideration of the relative importance of attending post-graduate courses, seminars and classes tended to be influenced by two independent but related variables, namely whether he was a member of the New York State Optometric Association and whether he was a member of the American Academy of Optometry.

f. The optometrist's view of the relative significance of doing the kind of work which his colleagues respected tended to be influenced by whether he was a member of the New York State Optometric Association.

g. The optometrist's view of the desirability of working for and in a commercial establishment, though at a high salary, tended to be influenced negatively by whether his present status was that of an employee.

h. The optometrist's view of the desirability of purchasing a commercial type of practice tended to be influenced negatively by whether he was a member of the New York State Optometric Association.

i. The optometrist's view of the relative importance of the professionalization movement tended to be influenced by his membership in the New York State Optometric Association.

j. The optometrist's view of the relative importance of having a good income was negatively influenced by the year he was graduated from optometry school. The older the practitioner, the less important was the consideration.

With regard to the project objectives of developing an understanding of the social background which produces practitioners with high principles of professional ethics, and the elimination of internal divisiveness such as commercial forms of practice, it can readily be seen that membership in the New York State Optometric Association is the most significant statistical factor. It would appear that membership in this organization tends to foster relationships and ideals which are consistent with a higher level of professionalism (example: membership in the American Academy of Optometry, attendance at post-graduate educational programs, etc.).

Without doubt, the present study should be extended to the forty-nine other states and the District of Columbia. This

should be done with some modification and elimination of meaningless questions from the questionnaire. The study should be done to evaluate regional influences as well as to secure a more representative sampling of all of the schools and colleges of optometry. While the present study revealed that the optometrist is already an accultured individual, the Gelsi-Gottehrer Study focused upon students -- -- persons who were in the process of becoming accultured into optometry. The professionalization influence of the schools, therefore, is of considerable importance. In addition to the other areas for future investigation suggested above, a study should be performed to determine how professional attitudes are acquired by a student and by a practitioner. With the assumption that these attitudes are reasonably well formed during the years of acculturation in the optometric institutions, the very nature of the professionalizing atmosphere, including the substantive content of educational material, should be evaluated. That study was only recently suggested when it was discovered that at least two leading optometric institutions have faculty members who are not members of the American Academy of Optometry. Further inquiry revealed that membership was not a qualification standard for faculty appointment. When students are exposed to faculty who are themselves members of a profession, it cannot be questioned that the teacher-practitioner tends to become an ideal type for the student to emulate and to follow. The lack of high standards of professionalism among members of the faculty would be indelably translated to future practitioners. Another study, thereby,

suggested is one having to do with professional attitudes and concepts -- -- literally the index of professionalism -- -- of the members of the faculties of the schools and colleges of optometry. Aspects of professional behavior and professional performance that have not been included in the present study are the extent of professional services and level of the substantive parts of professional care rendered. These, in many respects, relate to professionalism. The development of questionnaire items would be a very valuable instrument.

## 7. Summary:

Measurable variations have been obtained in the attitudes and outlooks of a very representative sampling of optometrists of New York State. Statistical inferences have been made though in most instances the inferences have been slight to moderate. Factor analyses, regression analyses and the influences of independent variables on key dependent variables have been accomplished. Tabular distribution of results of the questionnaire have been presented.

Appendices

Appendix "A" — Letter of Commissioner Neville L. Bennington, dated November 23, 1965.

Appendix "B" — Letter of Dr. Alden N. Haffner, dated January 6, 1966.

Appendix "C" — Questionnaire Instrument

Appendix "D" — List of Tables

Appendix "E" — Tabular Data and Analyses

## References


1. Handbook No. 21 - The Regents of the University of the State of New York.

2. Asch, Sidney H.: "A Study of Optometry in the Empire State" a monograph, published by the New York State Optometric Association.

3. Ornak, Louis H., and Uglum, John R.: "Sociological Perspectives of the Profession of Optometry", American Journal of Optometry and Archives of the American Academy of Optometry, Minneapolis, 1958.

4. Gottehrer, Donald I., and Gelsi, Joseph: "A Study of the Professional Orientation of Optometry Students", The Optometric Weekly, Vol. 55 Nos. 16, 17, 18, Chicago, April 1964.

APPENDIX "A"

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
DIVISION OF PROFESSIONAL EDUCATION
ALBANY, NEW YORK 12224

NEVILLE L. BENNINGTON
ASSISTANT COMMISSIONER FOR
PROFESSIONAL EDUCATION
GR 4-3862

November 23, 1965

To the Optometrists of New York State

The State Education Department's Division of Professional Education has been deeply interested in the growth and development of the Optometry profession. Dr. Alden N. Haffner, Director of the Optometric Center of New York, has received a small Federal grant to enable the Center to make a sociological study leading to a better understanding of the growth and development of the profession. He has arranged to share his findings with the State Education Department.

I would be pleased to have you assist in this sociological study in your profession by your early completion and return of a questionnaire which Dr. Haffner will place in your hands.

Cordially yours,

Neville L. Bennington

NLB:bad

APPENDIX "B"

OPTOMETRIC CENTER OF NEW YORK
351 WEST 48TH STREET
NEW YORK, NEW YORK 10036
CIRCLE 6-7030

January 6th, 1966

To the Optometrists of New York State:

Dear colleague:

A grant from the United States Office of Education has been received for a study of optometrists of New York State. The enclosed questionnaire carefully has been prepared to elicit the social background, attitudes and outlooks of the optometrist as they relate to various aspects of practice. This study, the first of its kind in optometry, is significant in gaining a better insight into the growth and development of the profession.

The Optometric Center of New York is the "Submitting Agency" for the study and the New York State Education Department is the "Transmitting Agency".

Your cooperation and aid will be essential in securing the completed queationnaire. The success of the study will, in large measure, depend upon the adequacy of the number and content of responses.

The results of the completed study will be reported to the profession through journal publication.

A prompt reply will be most appreciated. All completed questionnaires must be received before January 30th.

May I thank you for your consideration and for your help.

Sincerely yours,

Alden N. Haffner, O.D., Ph.D.
Executive Director

ANH/cje
Enclosures:
1. Special Envelope
2. Questionnaire
3. Letter from Commissioner Bennington

A NON-PROFIT AND TAX EXEMPT INSTITUTION CHARTERED BY THE BOARD OF REGENTS OF THE UNIVERSITY OF THE STATE OF NEW YORK AND DEDICATED TO THE VISUAL WELFARE OF THE COMMUNITY.

PPENDIX C

# The Optometric Center of New York

351 WEST 48th STREET - NEW YORK, NEW YORK 10036
Circle 6-7030

STUDY OF NEW YORK STATE OPTOMETRISTS
by Alden N. Haffner

QUESTIONNAIRE

INSTRUCTIONS: Please respond to all questions. Circle one number adjacent to the item which best answers the question. Do not answer any questions with more than one item. Do not sign the questionnaire or in any way identify yourself on the questionnaire. Fold the questionnaire and place it in the accompanying self-addressed envelope. Mail it at once. Your cooperation is very much appreciated. All questionnaires must be received by January 30th.

IA. In what year were you graduated from optometry school?
1. Prior to 1911
2. 1911 to 1915
3. 1916 to 1920
4. 1921 to 1925
5. 1926 to 1930
6. 1931 to 1935
7. 1936 to 1940
8. 1941 to 1945
9. 1946 to 1950
10. 1951 to 1955
11. 1956 to 1960
12. 1961 to present

IB. Which school of optometry?
1. Columbia University
2. Pennsylvania (State) College of Optometry
3. Ohio State University
4. University of California
5. Los Angeles College of Optometry
6. Indiana University
7. Illinois College of Optometry (Include Northern Illinois and Chicago College of Optometry)
8. Pacific University
9. University of Houston
10. Southern College of Optometry
11. Massachusetts College of Optometry
12. Other

IC. Your marital status:
1. single
2. engaged and planning to be married
3. married, no children
4. married with children
5. widowed, divorced or separated - no children
6. widowed, divorced or separated - with children

ID. Persons other than your immediate family receiving their main support from you:
1. One parent
2. Both parents
3. Parent or parents and others
4. Others

IE. As far as you know, what was your academic standing in optometry school?
1. top quarter
2. above average but not top quarter
3. average
4. below average but not bottom quarter
5. bottom quarter

IF. As far as you know, what was your academic standing in high school?
1. top quarter
2. above average but not top quarter
3. average
4. below average but not bottom quarter
5. bottom quarter

IG. What academic preparation did you have before entering optometry school?
1. four years of college or more
2. up to three years of college
3. up to two years of college
4. up to one year of college
5. high school graduation only

IH. Do you plan to retire from practice in the next five years?
1. yes
2. no

II. When did you first seriously consider studying optometry?
1. before I was in high school
2. when I was in high school
3. after I was graduated from high school and before I entered college
4. during my first two years in college
5. after college work other than pre-optometry
6. after other work or career experience
7. after military service
8. do not remember

IJ. How many years did you attend college or graduate school after graduation from optometry school?
1. none
2. up to one year of college
3. up to two years of college
4. up to three years of college
5. up to four years of college
6. more than four years of college

IK. Did you receive a degree after graduation from optometry school?
1. yes
2. no

IL. In what kind of community did you live longest before you went to college?
1. city of one million or more or suburbs of a city of one million or more
2. city with a population of 250,000 to one million or suburbs of such a city
3. town or city with a population of 50,000 to 250,000
4. town or city 2,500 to 50,000 population
5. rural (under 2,500) but not farm
6. farm

IM. How far did your father go in school?
1. eighth grade or less
2. some high school
3. high school graduate
4. trade school
5. some college
6. college graduate
7. more than college
8. do not know

IN. How far did your mother go in school?
1. eighth grade or less
2. some high school
3. high school graduate
4. trade school
5. some college
6. college graduate
7. more than college
8. do not know

IO. Who was more influential in your choice of optometry as a career?
1. father
2. mother
3. neither

IP. What kind of work does (or did) your father do?
1. professional or semi-professional
2. proprietor, manager, official
3. clerical or sales
4. craftsman or foreman
5. laborer
6. farmer

Q. Does (or did) your father work ten years or more for:
1. himself
2. someone else
3. partly self, partly someone else

R. Is (or was) your father:
1. optometrist
2. physician
3. dentist
4. veterinarian
5. clergy
6. accountant
7. lawyer
8. optician
9. other

S. Where was your father born?
1. U.S.A.
2. outside U.S.A.

T. Where was your mother born?
1. U.S.A.
2. outside U.S.A.

U. Indicate as accurately as possible the income group which best describes (or described) your parents' total income for any typical year while you were in high school.
1. under $5,000
2. $5,000 to $7,500
3. $7,500 to $10,000
4. $10,000 to $15,000
5. $15,000 to $20,000
6. $20,000 to $25,000
7. Over $25,000

V. Are you a member of the New York State Optometric Association?
1. yes
2. no

W. People sometimes talk about the kinds of social classes in American communities. In your own opinion, which one of these terms comes closest to describing the class of your family upbringing?
1. lower class
2. working class
3. lower middle class
4. upper middle class
5. upper class

X. In what class would you place yourself now?
1. lower class
2. working class
3. lower middle class
4. upper middle class
5. upper class

Y. Think of yourself fifteen years from now. Which of these terms comes closest to describing the class to which you expect to belong?
1. lower class
2. working class
3. lower middle class
4. upper middle class
5. upper class

Z. What is your religious denomination? (Optional)
1. Roman Catholic
2. Protestant (all denominations)
3. Jewish
4. other
5. none

A. Do you consider yourself a religious person? (Optional)
1. yes
2. no

B. I am presently engaged in practicing optometry
1. by myself in individual private practice
2. in partnership practice with one or more optometrists
3. as an employee
4. as a full-time member of a group practice
5. part-time individual private practice and part-time in group or as an employee

C. How often do you attend religious services? (Optional)
1. once a week or more
2. twice a month
3. once a month
4. a few times a year
5. never

IID. How important is your religion to you? (Optional)
1. very important
2. fairly important
3. of little importance
4. of practically no importance
5. no religious preference.

IIE. What is your present net income?
1. to $7,500
2. $7,500 to $10,000
3. $10,000 to $15,000
4. $15,000 to $20,000
5. $20,000 to $25,000
6. above $25,000

IIF. In what kind of community do you practice?
1. city of one million or more, or suburbs of a city of one million or more
2. city with a population of 250,000 to one million or suburbs of such a city
3. town or city with a population of 50,000 to 250,000
4. town or city 2,500 to 50,000 population
5. rural (under 2,500) but not farm
6. farm

IIG. Prior to attending optometry school, did you apply to:
1. dental school
2. law school
3. medical school
4. veterinary school
5. other professional school
6. did not apply elsewhere

IIH. To how many optometry schools did you apply for admission?
1. only one
2. two
3. three
4. four
5. five
6. six or more

**IN THE NEXT SERIES OF QUESTIONS, INDICATE THE RELATIVE IMPORTANCE OF EACH OF THE FOLLOWING BY CIRCLING THE APPROPRIATE NUMBER:**

| | | Extremely Important | Very Important | Fairly Important | Not too Important | Unimportant |
|---|---|---|---|---|---|---|
| IIL. | Having adequate free time | 1 | 2 | 3 | 4 | 5 |
| IIJ. | Having time off to do other things that interest me: | 1 | 2 | 3 | 4 | 5 |
| IIK. | doing work my colleagues respect | 1 | 2 | 3 | 4 | 5 |
| IIL. | having a very good income; earning enough money to enjoy a fine living | 1 | 2 | 3 | 4 | 5 |
| IIM. | having autonomy in my work; having enough freedom and responsibility to engage in my practice as I want it to be done | 1 | 2 | 3 | 4 | 5 |
| IIN. | helping people; doing something worthwhile for society | 1 | 2 | 3 | 4 | 5 |
| IIO. | attending seminars, lectures symposia; taking courses of post graduate study | 1 | 2 | 3 | 4 | 5 |
| IIP. | offering my professional services to indigent patients at very low fees or no fees | 1 | 2 | 3 | 4 | 5 |
| IIQ. | were I to be employed (or if I am employed) being supervised professionally by another optometrist rather than by a lay person | 1 | 2 | 3 | 4 | 5 |
| IIR. | being active in my state association | 1 | 2 | 3 | 4 | 5 |

**IN THE NEXT SERIES OF QUESTIONS, INDICATE THE RELATIVE DESIRABILITY OF EACH OF THE FOLLOWING BY CIRCLING THE APPROPRIATE NUMBER:**

| In the light of present commitments and personal responsibilities, I would consider..... | | Extremely Desirable | Desirable | Not Desirable But would Consider | Would Not Consider |
|---|---|---|---|---|---|
| IIS. | were I employed (or if I am employed) working for an ethical optometrist at a modest salary | 1 | 2 | 3 | 4 |
| IIT. | with the possibility of doubling my income, starting my own commercial practice | 1 | 2 | 3 | 4 |
| IIU. | refracting part-time or fitting contact lenses part-time for an ophthalmologist | 1 | 2 | 3 | 4 |
| IIV. | purchasing an ethical practice | 1 | 2 | 3 | 4 |
| IIW. | working for a commercial establishment at a high salary | 1 | 2 | 3 | 4 |
| IIX. | teaching or doing research in a clinic or in a school of optometry | 1 | 2 | 3 | 4 |
| IIY | purchasing a commercial practice | 1 | 2 | 3 | 4 |

III2. How did you finance your optometric education?

1. with the total financial aid of my family
2. partly with funds from my family and partly with funds which I earned
3. family funds, my own funds and scholarship aid
4. my own funds and scholarship aid
5. family funds and scholarship aid
6. the G.I. Bill in addition to other funds
7. other

III3A. If you could choose a career over again, what would be your first choice?

1. optometry
2. medicine, dentistry or other profession on a similar level
3. law
4. engineering or the pure sciences
5. teaching
6. other choices

III3B. Would you prefer your son or daughter to enter:

1. optometry
2. medicine, dentistry or other profession on a similar level
3. law
4. engineering or the pure sciences
5. teaching
6. other choices

III3C. How many young men and young women have you recommended to optometry schools in the last five years?

1. five or more
2. less than five
3. none

III3D. If a new system of eyecare were to be established in the United States, which one of the following would you like to see prevail?

1. ophthalmology to be restricted to major medicine and internal ocular surgery and the optometrist to expand his work to minor medicine and external ocular surgery
2. ophthalmology to be restricted to major medicine and all ocular surgery and the optometrist to expand his work to minor medicine of the eye
3. ophthalmology to be restricted to medicine and surgery of the eye and optometry to remain within its present legal limits of the visual sciences
4. no change from the present status
5. ophthalmology to supervise all forms of eyecare including the work of the optometrist
6. elimination of the optometrist and the substitution of a series of technicians all under the supervision of the ophthalmologist
7. optometry and ophthalmology to join in a group practice with functional separation of each specialty and overall supervision by the group

III3E. The optometry schools and colleges all are now at a six year level (a minimum of two years of pre-professional college work and four years of optometry) leading to the degree, Doctor of Optometry. With the six year curriculum, do you feel that the profession should:

1. expand its legal responsibilities to include the use of topical anesthetics and cycloplegics for diagnostic purposes only
2. expand its legal responsibilities to include drugs for the practice of minor medicine of the eye
3. expand its legal responsibilities to include the practice of minor medicine and minor surgery of the eye
4. not alter the present legal responsibilities

IN THE NEXT SERIES OF QUESTIONS, INDICATE THE RELATIVE IMPORTANCE OF EACH OF THE FOLLOWING BY CIRCLING THE APPROPRIATE NUMBER.

| | | Extremely Desirable | Desirable | Not Desirable But Would Consider | Would Not Consider |
|---|---|---|---|---|---|
| III3F. | practicing part time in a clinic or hospital with physicians and other professionals on an equal status | 1 | 2 | 3 | 4 |
| III3G. | practicing full time in a clinic or hospital with physicians and other professionals on an equal status | 1 | 2 | 3 | 4 |
| III3H. | practicing part time in a clinic or hospital working under the supervision of an ophthalmologist | 1 | 2 | 3 | 4 |
| III3I. | practicing part time in a clinic or hospital working under the supervision of an optometrist | 1 | 2 | 3 | 4 |
| III3J. | practicing full time in a clinic or hospital working under the supervision of an ophthalmologist | 1 | 2 | 3 | 4 |
| III3K. | practicing full time in a clinic or hospital working under the supervision of an optometrist | 1 | 2 | 3 | 4 |

III3L. During the last ten years, optometry has been undergoing a professional-service movement. Do you consider that the movement is:

1. having a profound beneficial effect upon the profession
2. not changing the face of the profession
3. its effect will not be felt for many years to come
4. not very important
5. undesirable

III3M. The Optometric Center of New York has established a strong community orientation. Its existence:

1. is having a profound beneficial effect upon the profession
2. is not changing the face of the profession
3. its effect will not be felt for many years to come
4. not very important
5. undesirable

III3N. If Optometric Centers could be established in major cities throughout the State, do you believe that:

1. it would have a profound beneficial effect upon the profession
2. it would not change the face of the profession
3. its effect would not be felt for many years
4. it would not be very important
5. it would be undesirable

III3O. If you were to cite the one major source of your possible dissatisfaction with optometry, which would you choose?

1. it is not held high enough in public esteem
2. the public views the optometrist as a "seller of glasses"
3. the public would rather consult a "real doctor"
4. the public does not view the optometrist as it does the physician
5. there is a lack of recognition by medicine
6. there is not enough income
7. optometry is a "limited" profession
8. no dissatisfaction

III3P. What would you cite as your second possible dissatisfaction?

1. it is not held high enough in public esteem
2. the public views the optometrist as the "seller of glasses"
3. the public would rather consult a "real doctor"
4. the public does not view the optometrist as it does the physician
5. there is a lack of recognition by medicine
6. there is not enough income
7. optometry is a "limited " profession
8. no dissatisfaction

III3Q. Are you a member of the American Academy of Optometry?

1. yes
2. no
3. no, but eligible for membership

III3R. In the community in which you practice, the people generally tend to view the optometrist as:

1. a professional man occupying a status similar to physicians and dentists
2. a professional man occupying a status lower than physicians but on the same level as dentists
3. a professional man occupying a status lower than physicians and dentists
4. a semi-professional whose work is part business, part profession
5. a skilled person engaged in the business of selling glasses
6. no opinion

III3S. In your opinion, do the people in your community (the community in which you practice) generally have a view of optometry and the optometrist which is:

1. well defined as a professional man
2. not clearly defined but positive in the direction of the optometrist as a professional man
3. not clearly defined but positive in the direction of the optometrist as a semi-professional
4. poorly defined as a professional man

III3T. Do you recall, as a youngster, whether your experience as an acquaintance of an optometrist influenced your decision to become an optometrist?

1. yes, there was a strong influence because I admired the optometrist
2. yes, there was an influence but it was not a strong influence
3. no, there was no influence
4. no, I was not acquainted with an optometrist

IIIU. Was your decision to pursue optometry as a career influenced by your visual or eye problem?

1. yes
2. no

IIIV. Was your decision to pursue optometry as a career influenced by the visual or eye problems of others close to you?

1. yes
2. no

IIIW. The optometrist whom you consulted for care before you decided to study optometry was, in your opinion, generally viewed by the people of the community as:

1. a professional man occupying a status similar to physicians and dentists
2. a professional man occupying a status lower than physicians but on the same level as dentists
3. a professional man occupying a status lower than physicians and dentists
4. a semi-professional whose work is part business, part profession
5. a skilled person engaged in the business of selling glasses
6. no opinion
7. I was not an optometric patient

IIIX. In your opinion, did the people of the community in which you were brought up look at the optometrists and optometry with a view which was:

1. well defined as a professional man
2. not clearly defined but positive in the direction of the optometrist as a professional man
3. not clearly defined but positive in the direction of the optometrist as a semi-professional
4. poorly defined as a professional man

IIIY. In your opinion, which of the following best characterizes the change in optometry from the time that you were graduated from optometry school?

1. optometry has increased in professional status and in importance as a public health resource
2. optometry has gained in importance but quite modestly
3. there have been no changes in professional status and importance
4. the importance and status of optometry have declined
5. optometry is losing ground rapidly
6. optometry, as a profession, will not survive.

IIIZ. Viewing your optometric colleagues generally, do you find that they are:

1. engaged in practice which is a source of satisfaction to you
2. engaged in practice which is a source of professional dissatisfaction to you

IVA. Do you consider that your optometric education in optometry school was:

1. excellent
2. good
3. adequate
4. less than adequate
5. poor

IVB. Do you believe that the majority of your patients generally are:

1. from families with a high income
2. from families with a high middle income
3. from families with a low middle income
4. from families with a low income

IVC. Are you presently engaged in optometric practice?

1. private, solo practice, full time
2. full time employed
3. private partnership practice, full time
4. part time employed and part time private practice

IVD. Are you a member of a professional staff of a clinic, hospital, medical group, or other institution devoting three or more hours per week?

1. yes
2. no

IVE. Do you belong to a civic service club or organization?

1. Lions Club
2. Optimist Club
3. Kiwanis Club
4. Rotary Club
5. "Sayonia"
6. Toastmasters
7. other
8. not a member

IVF. Are you a veteran?

1. World War I
2. World War II
3. Korean War
4. Viet Nam War
5. peacetime veteran
6. never in armed forces

IVG. Are you a member of a political club? (Optional)

1. Republican
2. Democrat
3. Liberal
4. other
5. none

IVH. Do you play a musical instrument?

1. yes
2. no

IVI. Do you subscribe to optometric journals?

1. one journal
2. two journals
3. three journals
4. four journals
5. more than four journals
6. none

IVJ. Do you read your professional journals?

1. thoroughly
2. skimmingly
3. hardly ever

IVK. Excluding professional books, journals and non-professional magazines, how many books did you read last year?

1. less than ten
2. ten to twenty four
3. twenty five to forty nine
4. fifty or more

IVL. Excluding professional journals, how many magazines do you read most

1. ten or more
2. seven to nine
3. four to six
4. one to three
5. none

IVM. Do you borrow books from your local community library?

1. yes
2. no

IVN. Do you collect stamps?

1. yes
2. no

IVO. Do you paint pictures?

1. yes
2. no

IVP. Do you operate a ham radio station?

1. yes
2. no

IVQ. Do you work in wood?

1. yes
2. no

IVR. Do you work in metal?

1. yes
2. no

IVS. Do you work in ceramics?

1. yes
2. no

IVT. Do you work in plastics?

1. yes
2. no

IVU. Do you have a workshop in your home?

1. yes
2. no

IVV. Do you garden?

1. yes
2. no

IVW. Do you hunt?

1. yes
2. no

IVX. Do you play golf?

1. yes
2. no

IVY. Do you boat?

1. yes
2. no

IVZ. Do you boat?

1. yes
2. no

VA. Do you fly as a private pilot?

1. yes
2. no

VB. How many automobiles are there in your immediate family for which you are responsible?

1. one
2. two
3. three
4. more than three
5. none

Appendix "D"

List of Tables:

Information from the total questionnaire was arranged for transmission to key punch cards. Three hundred eighteen tables of data are presented with income and size of community in which the optometrist practices as defining correlates as against a third variable. These constitute the printouts from the EDP Unit.

TABLES — By Title (see below)

1. Year of graduation from optometry school I
2. Year of graduation from optometry school II
3. Year of graduation from optometry school III
4. School of optometry graduated from I
5. School of optometry graduated from II
6. School of optometry graduated from III
7. Marital status I
8. Marital status II
9. Marital status III
10. Person other than immediate family receiving main support from you I
11. Person other than immediate family receiving main support from you II
12. Person other than immediate family receiving main support from you III
13. Academic standing in optometry school I
14. Academic standing in optometry school II
15. Academic standing in optometry school III
16. Academic standing in high school I
17. Academic standing in high school II
18. Academic standing in high school III
19. Academic preparation for optometry school I
20. Academic preparation for optometry school II
21. Academic preparation for optometry school III
22. Plan to retire from practice in next five years I
23. Plan to retire from practice in next five years II
24. Plan to retire from practice in next five years III
25. When first seriously considered studying optometry I
26. When first seriously considered studying optometry II
27. When first seriously considered studying optometry III

28. Number of years attended college/graduate school after graduation from optometry school I
29. Number of years attended college/graduate school after graduation from optometry school II
30. Number of years attended college/graduate school after graduation from optometry school III
31. Received a degree after graduation from optometry school I
32. Received a degree after graduation from optometry school II
33. Received a degree after graduation from optometry school III
34. Kind of community lived in longest before going to college I
35. Kind of community lived in longest before going to college II
36. Kind of community lived in longest before going to college III
37. Father's education I
38. Father's education II
39. Father's education III
40. Mother's education I
41. Mother's education II
42. Mother's education III
43. Who was more influential in choice of optometry as a career I
44. Who was more influential in choice of optometry as a career II
45. Who was more influential in choice of optometry as a career III
46. Father's occupation I
47. Father's occupation II
48. Father's occupation III
49. Whom did father work for in last ten years I
50. Whom did father work for in last ten years II
51. Whom did father work for in last ten years III
52. Father's profession I
53. Father's profession II
54. Father's profession III
55. Father's place of birth I .
56. Father's place of birth II
57. Father's place of birth III
58. Mother's place of birth I
59. Mother's place of birth II
60. Mother's place of birth III
61. Parent's average annual income while you were in high school I
62. Parent's average annual income while you were in high school II
63. Parent's average annual income while you were in high school III
64. Membership in New York State Optometric Association I
65. Membership in New York State Optometric Association II
66. Membership in New York State Optometric Association III
67. Social class of family I
68. Social class of family II
69. Social class of family III
70. Your present social status I
71. Your present social status II
72. Your present social status III

73. Social class expects to belong to 15 years from now I
74. Social class expects to belong to 15 years from now II
75. Social class expects to belong to 15 years from now III
76. Religious denomination I
77. Religious demonination II
78. Religious demonination III
79. Do you consider yourself a religious person I
80. Do you consider yourself a religious person II
81. Do you consider yourself a religious person III
82. Kind of optometry practice engaged in I
83. Kind of optometry practice engaged in II
84. Kind of optometry practice engaged in III
85. Frequency of attending religious services I
86. Frequency of attending religious services II
87. Frequency of attending religious services III
88. Importance of religion to you I
89. Importance of religion to you II
90. Importance of religion to you III
91. Present net income I
92. Present net income II
93. Present net income III
94. Kind of community practice in I
95. Kind of community practice in II
96. Kind of community practice in III
97. Other schools applied to prior to attending optometry school I
98. Other schools applied to prior to attending optometry school II
99. Other schools applied to prior to attending optometry school III
100. Number of optometry schools applied to for admission I
101. Number of optometry schools applied to for admission II
102. Number of optometry schools applied to for admission III
103. Importance of having adequate free time I
104. Importance of having adequate free time II
105. Importance of having adequate free time III
106. Importance of having time off to do other things I
107. Importance of having time off to do other things II
108. Importance of having time off to do other things III
109. Importance of doing work colleagues respect I
110. Importance of doing work colleagues respect II
111. Importance of doing work colleagues respect III
112. Importance of having a very good income I
113. Importance of having a very good income II
114. Importance of having a very good income III
115. Importance of having autonomy in work I
116. Importance of having autonomy in work II
117. Importance of having autonomy in work III
118. Importance of helping people I
119. Importance of helping people II
120. Importance of helping people III

121. Importance of attending seminars, lectures, symposia I
122. Importance of attending seminars, lectures, symposia II
123. Importance of attending seminars, lectures, symposia III
124. Importance of offering professional services to indigent patients at low fees I
125. Importance of offering professional services to indigent patients at low fees II
126. Importance of offering professional services to indigent patients at low fees III
127. Importance of being supervised professionally by another optometrist I
128. Importance of being supervised professionally by another optometrist II
129. Importance of being supervised professionally by another optometrist III
130. Importance of being active in State Association I
131. Importance of being active in State Association II
132. Importance of being active in State Association III
133. Desirability of working for an ethical optometrist at a modest salary I
134. Desirability of working for an ethical optometrist at a modest salary II
135. Desirability of working for an ethical optometrist at a modest salary III
136. Desirability of starting own commercial practice for larger income I
137. Desirability of starting own commercial practice for larger income II
138. Desirability of starting own commercial practice for larger income III
139. Desirability of working part-time for an ophthalmologist I
140. Desirability of working part-time for an ophthalmologist II
141. Desirability of working part-time for an ophthalmologist III
142. Desirability of purchasing an ethical practice I
143. Desirability of purchasing an ethical practice II
144. Desirability of purchasing an ethical practice III
145. Desirability of working for a commercial establishment at a high salary I
146. Desirability of working for a commercial establishment at a high salary II
147. Desirability of working for a commercial establishment at a high salary III
148. Desirability of teaching or doing research in a clinic/school of optometry I
149. Desirability of teaching or doing research in a clinic/school of optometry II
150. Desirability of teaching or doing research in a clinic/school of optometry III

151. Desirability of purchasing a commercial practice I
152. Desirability of purchasing a commercial practice II
153. Desirability of purchasing a commercial practice III
154. How financed optometric education I
155. How financed optometric education II
156. How financed optometric education III
157. First choice of a career would decide on at present I
158. First choice of a career would decide on at present II
159. First choice of a career would decide on at present III
160. Choice of a career for son/daughter I
161. Choice of a career for son/daughter II
162. Choice of a career for son/daughter III
163. Number of young people recommended to optometry schools in last 5 years I
164. Number of young people recommended to optometry schools in last 5 years II
165. Number of young people recommended to optometry schools in last 5 years III
166.A Eye care system would like to see established in the U.S. I
166.B Eye care system would like to see established in the U.S. II
167.A Eye care system would like to see established in the U.S. III
167.B Eye care system would like to see established in the U.S. IV
168.A Eye care system would like to see established in the U.S. V
168.B Eye care system would like to see established in the U.S. VI
169. At the present level of study should the legal responsibility of optometry be expanded I
170. At the present level of study should the legal responsibility of optometry be expanded II
171. At the present level of study should the legal responsibility of optometry be expanded III
172. Desirability of practicing part-time in a clinic or hospital with professionals on an equal status I
173. Desirability of practicing part-time in a clinic or hospital with professionals on an equal status II
174. Desirability of practicing part-time in a clinic or hospital with professionals on an equal status III
175. Desirability of practicing full time in a clinic or hospital with professionals on an equal status I
176. Desirability of practicing full time in a clinic or hospital with professionals on an equal status II
177. Desirability of practicing full time in a clinic or hospital with professionals on an equal status III
178. Desirability of practicing part time in a clinic or hospital working under an ophthalmologist I
179. Desirability of practicing part time in a clinic or hospital working under an ophthalmologist II
180. Desirability of practicing part time in a clinic or hospital working under an ophthalmologist III

181. Desirability of practicing part time in a clinic or hospital working under an optometrist I
182. Desirability of practicing part time in a clinic or hospital working under an optometrist II
183. Desirability of practicing part time in a clinic or hospital working under an optometrist III
184. Desirability of practicing full time in a clinic or hospital working under an ophthalmologist I
185. Desirability of practicing full time in a clinic or hospital working under an ophthalmologist II
186. Desirability of practicing full time in a clinic or hospital working under an ophthalmologist III
187. Desirability of practicing full time in a clinic or hospital working under an optometrist I
188. Desirability of practicing full time in a clinic or hospital working under an optometrist II
189. Desirability of practicing full time in a clinic or hospital working under an optometrist III
190. Effect of professionalization movement in optometry I
191. Effect of professionalization movement in optometry II
192. Effect of professionalization movement in optometry III
193. Effect of the community orientation of the New York Optometric Center I
194. Effect of the community orientation of the New York Optometric Center II
195. Effect of the community orientation of the New York Optometric Center III
196. Opinion on establishing optometric centers in major cities throughout the State I
197. Opinion on establishing optometric centers in major cities throughout the State II
198. Opinion on establishing optometric centers in major cities throughout the State III
199. Major source of dissatisfaction with optometry I
200. Major source of dissatisfaction with optometry II
201. Major source of dissatisfaction with optometry III
202. Second possible dissatisfaction with optometry I
203. Second possible dissatisfaction with optometry II
204. Second possible dissatisfaction with optometry III
205. Membership in American Academy of Optometry I
206. Membership in American Academy of Optometry II
207. Membership in American Academy of Optometry III
208. How the community views the optometrist I
209. How the community views the optometrist II
210. How the community views the optometrist III
211. Community's view of the optometrist as a professional man I
212. Community's view of the optometrist as a professional man II
213. Community's view of the optometrist as a professional man III

214. Was acquaintance with an optometrist influential in your decision to become an optometrist I
215. Was acquaintance with an optometrist influential in your decision to become an optometrist II
216. Was acquaintance with an optometrist influential in your decision to become an optometrist III
217. Was decision to pursue optometry influenced by your visual or eye problems I
218. Was decision to pursue optometry influenced by your visual or eye problems II
219. Was decision to pursue optometry influenced by your visual or eye problems III
220. Was decision to pursue optometry influenced by visual or eye problems of others close to you I
221. Was decision to pursue optometry influenced by visual or eye problems of others close to you II
222. Was decision to pursue optometry influenced by visual or eye problems of others close to you III
223. Your view of the community's attitude toward the optometrist you consulted for care I
224. Your view of the community's attitude toward the optometrist you consulted for care II
225. Your view of the community's attitude toward the optometrist you consulted for care III
226. Your view of the community's attitude toward the optometrist as a professional man I
227. Your view of the community's attitude toward the optometrist as a professional man II
228. Your view of the community's attitude toward the optometrist as a professional man III
229. Changes in optometry since you graduated from optometry school I
230. Changes in optometry since you graduated from optometry school II
231. Changes in optometry since you graduated from optometry school III
232. Your view of optometric practice engaged in by your colleagues I
233. Your view of optometric practice engaged in by your colleagues II
234. Your view of optometric practice engaged in by your colleagues III
235. Rating of optometric education in optometry school I
236. Rating of optometric education in optometry school II
237. Rating of optometric education in optometry school III
238. Income level of patients I
239. Income level of patients II
240. Income level of patients III
241. Kind of practice engaged in I
242. Kind of practice engaged in II
243. Kind of practice engaged in III

244. Membership on the professional staff of a clinic, hospital, medical group or other institution I
245. Membership on the professional staff of a clinic, hospital, medical group or other institution II
246. Membership on the professional staff of a clinic, hospital, medical group or other institution III
247. Membership in a civic service club or organization I
248. Membership in a civic service club or organization II
249. Membership in a civic service club or organization III
250. Are you a veteran I
251. Are you a veteran II
252. Are you a veteran III
253. Membership in a political club I
254. Membership in a political club II
255. Membership in a political club III
256. Do you play a musical instrument I
257. Do you play a musical instrument II
258. Do you play a musical instrument III
259. Do you subscribe to optometric journals I
260. Do you subscribe to optometric journals II
261. Do you subscribe to optometric journals III
262. Do you read professional journals I
263. Do you read professional journals II
264. Do you read professional journals III
265. Number of books read last year excluding professional books I
266. Number of books read last year excluding professional books II
267. Number of books read last year excluding professional books III
268. Number of non-professional magazines read monthly I
269. Number of non-professional magazines read monthly II
270. Number of non-professional magazines read monthly III
271. Do you borrow books from local community library I
272. Do you borrow books from local community library II
273. Do you borrow books from local community library III
274. Do you collect stamps I
275. Do you collect stamps II
276. Do you collect stamps III
277. Do you paint pictures I
278. Do you paint pictures II
279. Do you paint pictures III
280. Do you operate a HAM radio station I
281. Do you operate a HAM radio station II
282. Do you operate a HAM radio station III
283. Do you work in wood I
284. Do you work in wood II
285. Do you work in wood III
286. Do you work in metal I
287. Do you work in metal II
288. Do you work in metal III

289. Do you work in ceramics I
290. Do you work in ceramics II
291. Do you work in ceramics III
292. Do you work in plastics I
293. Do you work in plastics II
294. Do you work in plastics III
295. Do you have a workshop in your home I
296. Do you have a workshop in your home II
297. Do you have a workshop in your home III
298. Do you garden I
299. Do you garden II
300. Do you garden III
301. Do you bowl I
302. Do you bowl II
303. Do you bowl III
304. Do you play golf I
305. Do you play golf II
306. Do you play golf III
307. Do you hunt I
308. Do you hunt II
309. Do you hunt III
310. Do you boat I
311. Do you boat II
312. Do you boat III
313. Do you fly as a private pilot I
314. Do you fly as a private pilot II
315. Do you fly as a private pilot III
316. Number of automobiles owned I
317. Number of automobiles owned II
318. Number of automobiles owned III

## Key To Question Numbers and Variable Numbers Used In The Analyses

Each of the tables giving the summary analysis of factors contains initially two columns. The first is the number of the variable. It corresponds to the question designation within which the variable is contained.

Example

In factor X:

| Var. No. | Quest. No. | |
|---|---|---|
| 9 | I C | 4. married with children |
| 8 | I C | 3. married, no children |
| 7 | I C | 1. single |

Variables 7, 8 and 9 are contained in question I C of the questionnaire. The designations 4, 3 and 1 indicate that the answer possibilities were taken in numerical sequence. In some instances, this was altered in terms of the numerical sequence of the variables.